In the Claims:

Claims that have been changed by this amendment are presented below and marked as "amended."

1. (amended) An interactive device for use in conjunction with a host computer, images displayed on a computer display screen, [apparatus] and a fixed surface, comprising:

a stylus [including a longitudinal axis, a lateral axis, and a vertical axis] having a pencil-like configuration to allow writing-like manipulations between fingers of a user;

a mechanical linkage coupled to a fixed surface and coupled to said stylus for supporting said stylus while allowing at least five degrees of freedom in the motion of said stylus, said mechanical linkage providing a user the ability to manipulate both the orientation and location of said stylus in three-dimensional space [, said five degrees of freedom including rotation about said longitudinal axis, revolution about its lateral axis, turning about its vertical axis, and spatial movement along at least two other axes relative to said fixed surface, said rotation, revolution and turning degrees of freedom providing said orientation of said stylus, and said spatial movment degrees of freedom providing said location of said stylus]; and

[means] a sensor for producing an interactive stylus locative signal which [on command by a user] is responsive to and corresponding with the position and movement of the stylus at any point in time during its normal operation, said stylus locative signal providing information about the orientation, location, and movement of said stylus for use by said host computer and said [a] computer display [apparatus] screen to manipulate images displayed by said computer display [apparatus] screen in accordance with said orientation, location, [and] or movement of said stylus, said images including a cursor whose position on said computer display screen is controlled by said stylus locative signal; and

a force generator for generating a force on said stylus in at least one of said plurality degrees of freedom in response to force signals provided to said interactive device, said force signals correlated to information displayed on said computer display screen.

35. (amended) An interactive device for use in conjunction with a host computer, a computer display apparatus and a fixed surface, comprising:

a [stylus] physical object that can be grasped and manipulated by a user;

a mechanical arm linkage coupled to a fixed surface and coupled to said [stylus] physical object for supporting said [stylus] physical object while allowing a plurality of degrees of freedom

in the motion of said [stylus] physical object [, said mechanical arm linkage providing a user the ability to manipulate the orientation and location of said stylus in three-dimensional space];

a sensor coupled to said mechanical [arm] linkage for sensing [said orientation and said] a location of said [stylus] physical object and providing a [stylus] locative signal to a computer display apparatus, said [stylus] locative signal providing information about said [orientation and] location of said [stylus] physical object for use by said computer display apparatus to manipulate an image displayed by said computer display apparatus in accordance with said [orientation and] location of said [stylus] physical object, said image including a computer cursor having a position controlled by said location of said physical object;

a feedback device for [providing] generating a force [along] in at least one of said plurality of degrees of freedom of said [stylus] physical object in response to a [stylus] force signal [generated] provided by said host computer [display apparatus] to said interactive device, said force signal being correlated to images displayed on said computer display apparatus in connection with said computer cursor; and

a user actuated switch capable of being in a least two states and a command device for generating a command signal for receipt by said host computer, said command signal representing a state of said switch.

39. (amended) A system for controlling an electromechanical interface apparatus manipulated by a user, the system comprising:

a host computer system for receiving an input control signal and for providing a host output control signal, wherein said host computer system updates a displayed process in response to said input control signal;

a processor separate from said host computer system for receiving said host output control signal from said host computer system and providing a processor output control signal;

an actuator for receiving said processor output control signal and providing a force along a degree of freedom to a user manipulable physical object coupled to said actuator in accordance with said processor output control signal; [and]

a non-volatile memory device coupled to and provided local to said processor and being accessible by said processor;

program instructions stored in said non-volatile memory for enabling communication between said processor and said host computer system and for allowing said processor to control said actuators in accordance with force commands provided by said host computer system; and

a sensor for detecting motion of said manipulable physical object along said degree of freedom and outputting said input control signal including information representative of the position of said physical object.

48. (amended) A method for interfacing motion of an object with a host computer system, the method comprising the steps of:

providing an object having a degree of freedom;

sensing positions of said object along said degree of freedom with a sensor and producing electrical sensor signals therefrom;

utilizing a microprocessor separate from said host computer system to receive said electrical sensor signals, provide said electrical sensor signals to said host computer system, and to receive host commands from said host computer system; [and]

creating a force on said object along said degree of freedom by using said microprocessor and said host commands to control an actuator coupled to said object.

providing a non-volatile memory device coupled to and provided local to said processor and being accessible by said processor; and

providing program instructions stored in said non-volatile memory for enabling communication between said processor and said host computer system and for allowing said processor to control said actuators in accordance with force commands provided by said host computer system.

54. (amended) An interface device manipulated by a user and communicating with a host computer system displaying visual images on a screen, said host computer system updating said visual images in response to input signals, said interface device comprising:

a processor, separate from said host computer system, for communicating with said host computer system via a communication interface by receiving a host command from said host computer system, said processor being controlled by software instructions stored on a memory device coupled to said processor;

a user object movable in a degree of freedom by a user and being physically contacted by said user;

an actuator electrically coupled to said processor for applying a force along a degree of freedom to said user object in accordance with a processor command from said processor, said processor command being derived from said host command, wherein said software instructions on said memory device includes a routine that allows said processor to control said actuator in accordance with said host command from said host computer; and

a sensor for detecting a position of said user object along said degree of freedom and outputting said input signals to said host computer system, said input signals including information representative of said position of said user object.

55. An interface device as recited in claim 54 wherein said sensor is electrically coupled to said processor, wherein said sensor outputs said input signals to said processor, and wherein said processor sends said input signals to said host computer system.

56. (amended) An interface device as recited in claim 55 wherein said processor is operative to [provide said processor command to said actuator] receive said input signals from said sensor in accordance with a processor [subroutine] routine selected in accordance with said host command and stored in said memory device.

58. An interface device as recited in claim 55 wherein said communication interface includes a serial interface.